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## EE/CprE/SE 491 WEEKLY REPORT 3

October 7, 2019 – October 20, 2019

**Group number:** 37

**Project title:** Open-Source Prototyping of Advanced Wireless Systems for Smart Agriculture and Connected Rural Communities

**Client &/Advisor:** Hongwei Zhang, Matthias Sander-Frigau

**Team Members/Role:** Zequn Wang – Meeting Scribe  
Dylan Sharp – Meeting Facilitator  
Jiawei Deng – Chief Engineer  
Zhenwei Su – Report Manager  
Shaohang Hu – Test Engineer

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### ○ Weekly Summary

Our group has continued focusing on gaining knowledge of the PRKS algorithm, investigating QEMU issues and understanding the ONAMA and pktRT algorithm.

### ○ Past week accomplishments

- Knowledge Share – Everyone
  - Dylan shared his understanding of the ONAMA algorithm to the group
  - Jiawei helped explain his current understandings off the PRKS algorithm
  - Shaohang demoed OpenWrt on the local host running on top of QEMU
  - Zhenwei shared understanding of pktRT algorithms to the group
  - Zequn found some parameters about Linux WIFI System
- Continued digging into PRKS – Jiawei, Zequn
  - Defined the parameters the PRKS algorithm uses. Notes located in cybox
  - Should help us get ahold of what inputs we will need, so next we can figure out how to get the required inputs
- Understand pktRT – Zhenwei
  - Defined the parameters and algorithms of pktRT
- QEMU - Shaohang
  - Build the kernel image for the Malta MIPS 24K device

### ○ Pending issues

- QEMU requires specific file system and extra dependencies, need more work

### ○ Individual contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Zequn Wang	PRKS Parameter Defining and Linux WIFI System parameter	12	33
Dylan Sharp	ONAMA Understanding	9	32
Shaohang Hu	QEMU and OpenWrt	10	33
Zhenwei Su	PktRT Parameter Defining	12	32
Jiawei Deng	PRKS Parameter Defining	11	35

○ **Comments and extended discussion**

PRKS algorithm is the main part of this project. So, after roughly understanding other two algorithms, most people will focus on the detail concepts in PRKS.

○ **Plans for the upcoming week**

- Map PRKS Parameters to OpenWrt – Everyone
  - Define how we would retrieve the parameters needed in the PRKS algorithm from the OpenWrt operating system
- Continue to further understand PRKS – Jiawei, Zequn, Zhenwei, Dylan
  - Exclusive region understanding
- QEMU and OpenWrt – Shaohang
  - Finish build the kernel image for the device